

From wang!elf.wang.com!ucsd.edu!info-hams-relay Thu Apr 4 22:31:47 1991 remote
from tosspot
Received: by tosspot (1.64/waf)
via UUCP; Thu, 04 Apr 91 21:33:18 EST
for lee
Received: from somewhere by elf.wang.com id aa01926; Thu, 4 Apr 91 22:31:46 GMT
Received: from ucsd.edu by relay1.UU.NET with SMTP
(5.61/UUNET-shadow-mx) id AA17252; Thu, 4 Apr 91 17:17:37 -0500
Received: by ucsd.edu; id AA00397
sendmail 5.64/UCSD-2.1-sun
Thu, 4 Apr 91 12:25:40 -0800 for brian
Received: by ucsd.edu; id AA29911
sendmail 5.64/UCSD-2.1-sun
Thu, 4 Apr 91 12:24:53 -0800 for /usr/lib/sendmail -oc -odb -oQ/var/spool/
lqueue -oi -finfo-hams-relay info-hams-list
Message-Id: <9104042024.AA29911@ucsd.edu>
Date: Thu, 4 Apr 91 12:21:50 PST
From: Info-Hams Mailing List and Newsgroup <info-hams-relay@ucsd.edu>
Reply-To: Info-Hams@ucsd.edu
Subject: Info-Hams Digest V91 #267
To: Info-Hams@ucsd.edu

Info-Hams Digest Thu, 4 Apr 91 Volume 91 : Issue 267

Today's Topics:

Advanced Tools for MUF Prediction
Antenna Matching Gedanken Experiment
Boy Scout RADIO Merit Badge
DR-110T
Heathkit DX-40?
HF rig names?
IAMBIC
Licensing Philosophy (2 msgs)
Livermore Swap Meet this Sunday
Ramsey QRP hf kits
Working with Phillystran

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 4 Apr 91 13:38:08 GMT
From: soleil!mlb.semi.harris.com!trantor.harris-atd.com!x102c.ess.harris.com!
blombardi@RUTGERS.EDU
Subject: Advanced Tools for MUF Prediction
To: info-hams@ucsd.edu

Fellow HF freaks...

I'm interested in the state-of-the-art computer tools for prediction of propagation for HF via the ionosphere. I suppose this would include through at least 6 m, and possibly up to 100 MHz.

Like most people, I have a version of minimuf (I copied it from an article in QST several years ago into my C64, and then ported it from the C64 to my PC). I also have the program Pathfind that was in HR a couple of years ago. It is supposed to be an updated version of minimuf.

The thing that I have against these programs is that they use solar flux alone. As we've all seen lately, that's only half of the story. To be realistic, I believe that a program would require A or K indices, and probably data on flux and magnetic activity for at least a couple of days.

An article (somewhere?) that I saw recently showed via scatter diagram how the forecast accuracy of the models for this have improved over the last few years. This was for a month at a time; I really only care about a day or two.

Is there any source for code that does this that is accessible to us 'average hams'? Ideally, I'd like PC-based, and can support a need for a coprocessor. Speed is not a problem, but I haven't seen much that bogs down my 386/3D87 combination. I could support C source code for the Unix machine here at work, but would rather do it at home.

73,
Bob

Bob Lombardi WB4EHS >>>>>> Internet: blombardi@x102c.ess.harris.com
M/S 102-4826, Harris Corp GASD, P.O. Box 94000, Melbourne, FL 32902
Hobbies: ***** on hold thanks to being a gradual student in EE *****
aspiring classical pianist. Professional: electrical engineer.

Date: 4 Apr 91 17:47:20 GMT
From: lll-winken!aunro!aupair.cs.athabascau.ca!rwa@ames.arpa
Subject: Antenna Matching Gedanken Experiment
To: info-hams@ucsd.edu

Lately there's been some talk in this group about antenna matching, SWR values, and so on. Someone (sorry, didn't save the article) mentioned that SWR didn't really matter, since the reverse wave reflecting from a mismatched load just bounced off the transmitter as well, and that worrying about getting a low SWR was really not very important - all the power went out the antenna eventually. I believe a book called 'Reflections' was mentioned as an authority.

This sort-of sounded reasonable (if you ignore the losses in the coax, which at HF and SWRs less than 10 are probably not much to speak of). Then I did a little gedanken experiment that got me wondering again.

Say one has a rig driving a chunk of (lossless) coax, said coax being terminated in either a dead short or an open - the intent is to get perfect reflection. OK, so the SWR is infinite. All the power stays in the transmitter. Things get hot!

Tying that back to the real world, it happens that for a while I was running an antenna that loaded well on 80, 40, 20, & 10 but very poorly on 15. The fans in my rig ran much harder when working on 15. The heatsinks got hotter. Perhaps my rig didn't read that book...

In short, I have some real doubts about this claim that the SWR doesn't much matter. Could we have some explanation please? Tnx.

--

Ross Alexander rwa@cs.athabascau.ca (403) 675 6311 ve6pdq
"I am having FUN... I wonder if it's NET FUN or GROSS FUN?" -- Zippy

Date: 4 Apr 91 19:58:27 GMT
From: swrinde!zaphod.mps.ohio-state.edu!rpi!luigi@ucsd.edu
Subject: Boy Scout RADIO Merit Badge
To: info-hams@ucsd.edu

Unfortunately now (and when I was of merit-badge eligibility) the Radio Merit badge has been steered toward SWLings. I got the badge but didn't become a ham until 10 years later. Though I remember one of the scout camp merit-badge counselors who was a ham.. I think I'll look him up in the the callbook and surprise him... We worked out scout camp for 4 years and

he was always trying to get me a ticket, too bad it took me so long to realize what fun he was having.

Oh yeah back to the topic at hand, not enough scouts were becoming hams (or not enough hams were showing up at scout meetings to show scouts the joys of ham radio, so national BSA softened the requirements)

I mean, the local beekeeper did one month of meetings (4 demo/talks plus 2 field trips on the wkend to the hives) and I got beekeeping MB. We can too.

Luigi Giasi KA1UTU
luigi@rpi.edu

Date: 4 Apr 91 18:44:40 GMT
From: ogicse!cs.uoregon.edu!ns.uoregon.edu!ns.uoregon.edu!jeffh@ucsd.edu
Subject: DR-110T
To: info-hams@ucsd.edu

Is anyone aware of any mods for the Alinco DR-110T? The way it gets hammered by local paging systems leads me to believe that the receiver is broad-band.

Thanks in advance,

Jeff Hite KF7SZ
Service Manager
Computing Center, U of Oregon
Phone: 503.346.4403
Internet: jeffh@ns.uoregon.edu
Disclaimer: Any semblance of statements made here to reality are directly proportional to the uncertainty principle.

Date: 4 Apr 91 15:00:17 GMT
From: news-mail-gateway@ucsd.edu
Subject: Heathkit DX-40?
To: info-hams@ucsd.edu

It has been many years since my DX-40 and VF-1 VF0! It is a good, sturdy, economical rig that is fine for CW and reasonably good on 'fone as I recall. I think it did not have a full 100% modulation capability but rather used a form of cathode modulation of the final amplifier at around 65% or so. Not a bad compromise for the price though. And yes, there are still AM (now called "ancient modulation") aficionados around. You will find some on 75 meters but

need a General Class or better license to operate there. Every once in a while, I hear some AM on 10 meters as well.

The only way to get a sidetone out of the rig would be to build and install a sidetone oscillator keyed in parallel with the transmitter. The sidetone oscillator is not a big problem but integrating the keying (assuming you used a solid state sidetone oscillator) would take a bit of planning (see note on use of keyer). You might investigate using a piezo "buzzer" from Radio Shack with appropriate voltage dropping network & keyed in parallel with the transmitter as an inexpensive alternative.

As I recall, the DX-40 is cathode keyed in the oscillator and final stages. the VFO is free running or can also be keyed, I think) - thus the 30 volt potential you are seeing at the key jack. Most solid state keyers cannot take this voltage or handle the current. As a general answer, the DX-40 was envisioned being keyed by a pair of silver plated contacts on either a manual key or a "bug" - not TTL or CMOS circuitry. You will probably have to add a power switching "sinking" transistor outboard of the keyer or within the DX-40 to connect a solid state keyer - or use a keying relay. If your keyer had a sidetone capability, you could solve that problem as well.

I do not recall what the phono jack on the VF-1 is for. Maybe someone else can .

As to price/value, a successful transaction is where the buyer receives value equal to the price paid and the seller receives money equal to the value placed on an article sold. Sounds to me like you made a good deal. Any other opinions are irrelevant at best and at least peculiar to the individual expressing them - who was not party to the transaction.

Good luck and 73, Wayne, KB6CSP

Date: 4 Apr 91 19:12:55 GMT
From: news-mail-gateway@ucsd.edu
Subject: HF rig names?
To: info-hams@ucsd.edu

Diana,

You listed only contemporary retail store products but asked your question regarding "popular" HF rigs. There are many more popular rigs but they are not contemporary (i.e. not manufactured or sold new today) and include such notable manufacturers as Collins Radio, Drake and Heath. Among contemporary rigs, you missed the Uniden and Radio Shack 10 meter only transceivers plus Japan Radio Corporation (JRC) transceivers which are attempting to enter the market here in the U.S. Harris Radio in Rochester has also advertised their equipment for ham

consumption from time to time but I would hardly classify them as "popular" ham rigs.

Hams will buy most anything, judging from the ads I see. However, economics and pragmatics lead us to transceivers instead of separate receivers and transmitters which was the the standard configuration of days gone by. I am not aware of any contemporary ham radio stand alone transmitters being actively marketed. They are tedious to most rice box operators in that you have to provide and wire up an external antenna change over relay (or provide separate receive and transmit antennas) and receiver muting circuit when transmitting; requiring use of a soldering iron, sometimes reading and understanding a schematic, and require the coordination of operating two different knobs to control frequency - one on the receiver and one on the transmitter! Heady stuff for many hams today.

There may be light at the end of the proverbial tunnel, however, You will note that the Yaesu FT1000 actually has a second receiver built in! It is, I guess, a Receiver-transceiver. Or is it a Transceiverceiver? Other rigs in your list have a pseudo-second receiver built in so you can tune a limited excursion from the transceiver primary frequency. I guess this is to permit you to look for a more interesting conversationalist than the boring party you are presently talking with.

The stand alone receivers you listed can be used for electronic eavesdropping, monitoring a particular radio frequency or frequencies in conjunction with a frequency agile transceiver (i.e. I hear someone calling on a pre designated frequency using one of these receivers and then move my transceiver there to communicate), for the reception of facsimile, radio teletype transmissions, for monitoring weather broadcasts, transoceanic aircraft communications, etc., etc. It is all technically a form or variation on short wave listening but there's lots of interesting stuff in the "ether".

During the recent Operation Desert Storm event, stand alone receivers were in very high demand as people with roots in the Mid-East wanted to listen to foreign broadcasts and U.S. folk wanted to listen to our military aircraft communications to have timely and different views of happenings from that provided by the U.S. network media. Some hams do use a separate receiver so they can listen on other frequencies to maintain schedules, regular contacts or simply look to see what other band openings may occur while working on a given band. It is handy and useful; not essential.

I suppose there is another potential purpose for stand alone receivers and that is for the ham that wants to build his own transmitter. Stand-alone transmitters are still easier to construct and achieve reasonable performance with than the stand alone receivers you listed.

Date: 4 Apr 91 13:34:07 GMT
From: news-mail-gateway@ucsd.edu
Subject: IAMBIC
To: info-hams@ucsd.edu

Ted Kell (kell@lark.jsc.nasa.gov) asks;

"What does IAMBIC mean?"

According to my Collins;

iambic. Prosody. ~adj. 1. of, relating to, or using an iamb. 2. (In Greek literature) denoting a satirical verse written in iambs. ~n. 3. a metrical foot, line or stanza consisting of iambs. 4. an ancient Greek satirical verse written in iambs.

Doesn't have a lot to do with amateur radio, does it? So, what's an iamb?

iamb. Prosody. n. 1. a metrical foot of two syllables, a short one followed by a long one. 2. a line of verse of such feet.

Still not a lot to with amateur radio, you might think? Except, think of it this way. In the definition "a metrical foot of two syllables, a short one followed by a long one" think of the syllables as elements of a Morse letter (i.e. dit and dah) and the metrical foot as the letter itself. Better, but only being able to send one letter (di-dah) is not terribly useful.

But, we can extend this definition. When we manually key, we have one contact on the key which switches the transmitter on and off. What if we have two contacts - one of which makes dits and the other dahs? Add some electronics to make the elements self-completing and correctly spaced and we have the beginning of an iambic keyer. Close the dit contact and we get a stream of dits. Close the other and we get a stream of dahs. Now, we could mount these contacts on opposing sides of a single paddle, and would have an electronic sideswiper. Push the paddle one way for dits and the other for dahs. Close, but no cigar. To make the keyer "iambic" we need to be able to make the "two syllables". So, we have two paddles mounted in parallel close together. Push one for dits, the other for dahs. So far, the same as the sideswiper. But what if we *squeeze* the paddles together? This makes the keyer send alternate dits and dahs.

So, to send on this monster, for example, "CQ", we squeeze both paddles, starting with the dash paddle, and hold them both closed until the character's finished - dah-di-dah-dit. Then let go of both paddles. Then we push the dah paddle until it's sent two dahs - dah-dah - then tap the dit paddle (still holding down the dah paddle) and the keyer inserts a dit. Because we're still holding down the dah paddle, the keyer adds on a dah, then we let go.

This technique, for obvious reasons, is called "squeeze-keying". It has to be learned, but once it is, it becomes possible to send Morse much faster than normally. Many people, however, drive iambic keyes as if they were sideswipers.

Hope this makes sense,

73,

Hugh, G0CNR.

"Exercise is bunk. If you are healthy you don't need it: If you are sick you shouldn't take it."

Henry Ford (1863-1947) US Industrialist.

Date: 4 Apr 91 17:17:35 GMT
From: chiles.slisp.cs.cmu.edu!chiles@pt.cs.cmu.edu
Subject: Licensing Philosophy
To: info-hams@ucsd.edu

You make some interesting points, but basically I'm unsatisfied by your comments. I couldn't really say everything in my first message because I wanted it to be short enough for people to finish and to think about it. Let me address some of what you said.

From: taber@ultnix.enet.dec.com (Patrick St. Joseph Teahan Taber)

As some will point out with varying degrees of politeness, there is already a set of frequencies set aside for people whose sole interest is talking -- those are the CB allocations.

This is true, but CB lacks the interesting propagation qualities of frequencies allocated to hams. Sure, they have a long propagation capability once every several years or so, but they have no constant access from one of the coasts to the midwest for example. They can't readily communicate with relatives living far away without paying the phone company lots of money. Why is it the airwaves must be restricted from public access for people who just want to be friendly with other people around the world?

In the case of the ham bands, you're tested on theory because the license conveys the right to make, modify and experiment with transmitters.

This is interesting; however, there is no law against any CBer building a transmitter and operating it on a valid CB frequency. As you point out, they don't have to know any electronics. Even if there were a law against

this, the previous paragraph still holds, but why not give easy access to interesting frequencies for everyone via a no-experimenting ham ticket?

Should there be a new license class for non-technical hams (if that's not self-contradicting?) Well, certainly the people who have the allocations right now will say no. ... But I don't think you'd get a wide acceptance of no-tech licensing even from them.

You are very right. It is an unfortunate problem with humans that they think what was good for them is good for everyone. They have a hard time thinking in novel ways once they have found one way that works, however inefficiently or unfairly. Being an Extra Class, I feel some jealousy and value in my electronic prowess, but that doesn't stop me from trying to question authority and think for myself.

Even if there are some public frequencies requiring no technical knowledge to operate a transmitter, why not have all public frequencies free of this constraint? I can't think of any reason, other than some esoteric jealousy or archaic tradition. Perhaps there is some value in making people respect their license more, so they behave more professionally on the air -- the timeless ham regard for Cbers? I'll allow room for validity here, but I'm suspicious of any arguments stemming from this sort of idea since it reeks somewhat of "holier than thou".

I propose that there is no currently valid argument to support restricting ham licensing based on technical knowledge that encompasses anything more than reading an SWR meter and knowing about poor signals and interference. Anyway, my interest in this is purely intellectual, and I have no intent on waging any sort of political battle; gosh, my license may be devalued.

73,
Bill

Date: 4 Apr 91 18:55:30 GMT
From: crayola.cs.umd.edu!furuta@mimsy.umd.edu
Subject: Licensing Philosophy
To: info-hams@ucsd.edu

1. Important for protection of safety and/or property (e.g., the power equation).
2. Needed to understand how to set up, interconnect, and operate one's equipment (e.g., the simple circuit diagrams).
3. Required for having some glimmering of understanding of what everyone else is talking about on the air. If you can't understand the

terminology, it's hard to participate in the community.

In my opinion, the "theory" was pretty basic and quite appropriate for an entry-level ticket. (The topics I thought were not as relevant to operation [as opposed to building] were those on the definition of PNP and NPN transistors).

It'd also be interesting to assess how much simpler the tests actually would become if the theory was eliminated from them. Again, my perception is that most of the "memorization load" in the test preparation came from the policy and operating procedures portions of the tests.

Maybe I'd feel differently if I had failed the test :->

--Rick

Date: 4 Apr 91 15:39:26 GMT
From: sdd.hp.com!spool.mu.edu!uwm.edu!lll-winken!catnip!abeals@ucsd.edu
Subject: Livermore Swap Meet this Sunday
To: info-hams@ucsd.edu

[Forwarded from the radio]

Don't forget the next Livermore Amateur Radio Klub Swap Meet,
this Sunday, April 7, from 7:00 am to 12:00 Noon at Las Positas
College near Livermore.

The
Livermore Amateur Radio Klub
Swap Meet

Is held on the first Sunday of every month
from 7:00 am to 12:00 Noon

April 7
May 5
June 2
July 7
August 4
September 1

at Las Positas College
Near Livermore

Buyers enter free. Sellers pay \$10.00 per space. Covered areas will be available in case of inclement weather.

Convenient to both the Bay area and the central valley area, Las Positas College is located North of the Livermore Airport just off of Interstate 580. Take the Airway Bl/Collier Canyon exit north from Interstate 580. Turn right at the stop sign and follow the signs. Talk-in repeater frequencies are 147.045 (+) for the Bay Area and 145.350 (-) from the central valley.

Sponsored by the Livermore Amateur Radio Klub
To assist the Livermore Amateur Radio Klub (LARK) in providing public service to the community.

73, Ray, KK6AM@WA6YHJ

--

Andrew Scott Beals
abeals@catnip.berkeley.ca.us

KC6SSS
...!apple!catnip.berkeley.ca.us!abeals

Date: 4 Apr 91 18:15:27 GMT
From: world!ksr!jfw@decwrl.dec.com
Subject: Ramsey QRP hf kits
To: info-hams@ucsd.edu

awinterb@orion.cair.du.edu (Art Winterbauer) writes:
>Has anyone ordered and built one of the Ramsey QRP cw kits for hf
>or one of the associated direct conversion receivers?

I bought their 40-meter DC receiver kit some time ago and their CT-70 frequency counter more recently.

>I'm especially interested in:
>1. The speed with which Ramsey ships these units.

Not lightning service, but reasonable.

>2. Whether the kits are missing any components which must be re-
>ordered from Ramsey.

The counter was missing a few components; I called them on the phone, and they sent them.

>3. The quality of the instructions that come with the kits.

Not quite Heathkit in either depth or quality of presentation, but good enough even for a beginner, I think. The CT-70 instructions had a small problem in that they seemed to have slightly changed the circuit without doing an adequate job of updating the documentation.

>4. The type of calibration/alignment instruments needed.

For the DC receiver, another receiver was sufficient: that enables you to get the local oscillator into the right range; from there, you hook up an antenna and tweak for maximum noise. The CT-70 can be aligned with a frequency counter (to set its internal reference) or by using a known-good frequency standard (tweak the CT-70 until it gives the right answer).

The DC receivers are pretty minimalist, and you will probably find them irritating before terribly long. They are varactor tuned, which is kind of nice from a cost standpoint, but means (a) the stability isn't what it might be, and (b) the tuning control is touchy since you're turning a potentiometer directly instead of (say) a capacitor with a 6:1 reduction drive. I also found that the tuning range was too large (well over .5MHz), but I was able to fix that by cutting a foil trace and adding some strategic resistors to narrow the voltage range. The original kit used an op-amp as the audio amplifier, which meant very low audio levels, but I understand they've since changed that (maybe I'm wrong).

The CT-70 also suffers from some minor problems; the amplifier doesn't seem terribly sensitive, and appears to oscillate with no signal input.

Date: 4 Apr 91 19:10:37 GMT
From: sdd.hp.com!samsung!news.cs.indiana.edu!widener!netnews.upenn.edu!
eniad.seas.upenn.edu!depolo@ucsd.edu
Subject: Working with Phillystran
To: info-hams@ucsd.edu

We received a roll of the super-heavy Phillystran (about the same diameter as RG8). I was told it was the "new type" -- you no longer had to buy the special termination kits. Supposedly it just requires using a thimble and a few (3?) clamps to properly terminate it. Is this correct?

--- Jeff

--

Jeff DePolo	N3HBZ/AE	Twisted Pair: (215) 386-7199
depolo@eniad.seas.upenn.edu		RF: 146.685- 442.70+ 144.455s (Philadelphia)

University of Pennsylvania Carrier Pigeon: 420 S. 42nd St. Phila PA 19104

Date: 4 Apr 91 16:38:51 GMT
From: sbi!pivot-nj!canada!jerrys@uunet.uu.net
To: info-hams@ucsd.edu

References <5588@vela.acs.oakland.edu>, <23994@well.sf.ca.us>,
<1458@rust.zso.dec.com>
Subject : Re: No-Code Testing Questions

In article <1458@rust.zso.dec.com>, stoppani@rust.zso.dec.com (Pete Stoppani) writes:

> In article <21707@shlump.nac.dec.com>, koning@koning.enet.dec.com (Paul Koning) writes:

>

> Regarding the name "Tech-Lite" for the new no-code license:

>

> >....

> >

> > What the FCC did is to CHANGE the requirements for the Technician class

> > license, so it's hard to imagine why they would want to create a new

> > name. The existing name ("Technician") will do just fine.

> >

> > paul, nild

>

>

> My understanding is that there are in fact two Technician licenses:

>

> Technician no-code (new no-code license)

> Technician + code (same as old Technician)

>

> So it seems reasonable to me that there should be two names. I've read that

> they are simply called "Technician" and "Technician Plus Code".

>

> --

> | Pete Stoppani | stoppani@decwet.dec.com |

> | DECwest Engineering | decwrl!fungus.enet!stoppani |

> | Bellevue, WA | stoppani@fungus.zso.dec.com |

> | "The wise learn more from fools than fools learn from the wise." |

There is only one "technician" class license. However, over the years the requirements for this class of license has changed over the years. I can think of four types of "technician"s right now. In other words, four ways people have achieved this license class.

First are those people who passed the theory test for General before there ever was a Technician test. They used to be combined into one test. These people are granted Sase For both Technician and General theory elements forever. They hold Technician licenses. If they pass the General code test (that's all they need to do) they will be General licensees.

Next are people like me. I hold a technician class license. I have passed the novice theory, novice code, and technician theory tests. For me to get my General license I would have to pass both the General theory and code tests.

Third, are the latest batch of technician's. They come in two "flavors". That is to say, one type of technician passes just the novice theory and technician theory. This Technician has privealges only on 6meters and above, with no HF privealges.

The last type of technician, is the same as described in the paragraph above who then passes the code test for novice. This then means that he gets HF privealges in addition to his/her vhf/uhf privealges.

In any case, ALL FOUR OF THE LICENSEE I HAVE DESCRIBED ABOVE ARE TECHNICIAN CLASSE LICENSE HOLDERS. The requirments may have changed over the years, but not the name of the license class.

I hope that helps clear it all up (smile).

End of Info-Hams Digest

From wang!elf.wang.com!ucsd.edu!info-hams-relay Thu Apr 4 22:31:47 1991 remote from tosspot

Received: by tosspot (1.64/waf)

via UUCP; Thu, 04 Apr 91 21:33:18 EST

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(5.61/UUNET-shadow-mx) id AA17252; Thu, 4 Apr 91 17:17:37 -0500

Received: by ucsd.edu; id AA00397

sendmail 5.64/UCSD-2.1-sun

Thu, 4 Apr 91 12:25:40 -0800 for brian

Received: by ucsd.edu; id AA29911

sendmail 5.64/UCSD-2.1-sun

Thu, 4 Apr 91 12:24:53 -0800 for /usr/lib/sendmail -oc -odb -oQ/var/spool/lqueue -oi -finfo-hams-relay info-hams-list

Message-Id: <9104042024.AA29911@ucsd.edu>

Date: Thu, 4 Apr 91 12:21:50 PST
From: Info-Hams Mailing List and Newsgroup <info-hams-relay@ucsd.edu>
Reply-To: Info-Hams@ucsd.edu
Subject: Info-Hams Digest V91 #267
To: Info-Hams@ucsd.edu

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Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 4 Apr 91 13:38:08 GMT
From: soleil!mlb.semi.harris.com!trantor.harris-atd.com!x102c.ess.harris.com!
blombardi@RUTGERS.EDU
Subject: Advanced Tools for MUF Prediction
To: info-hams@ucsd.edu

Fellow HF freaks...

I'm interested in the state-of-the-art computer tools for
prediction of propagation for HF via the ionosphere. I suppose
this would include through at least 6 m, and possibly up to
100 MHz.

Like most people, I have a version of minimuf (I copied it from

an article in QST several years ago into my C64, and then ported it from the C64 to my PC). I also have the program Pathfind that was in HR a couple of years ago. It is supposed to be an updated version of minimuf.

The thing that I have against these programs is that they use solar flux alone. As we've all seen lately, that's only half of the story. To be realistic, I believe that a program would require A or K indices, and probably data on flux and magnetic activity for at least a couple of days.

An article (somewhere?) that I saw recently showed via scatter diagram how the forecast accuracy of the models for this have improved over the last few years. This was for a month at a time; I really only care about a day or two.

Is there any source for code that does this that is accessible to us 'average hams'? Ideally, I'd like PC-based, and can support a need for a coprocessor. Speed is not a problem, but I haven't seen much that bogs down my 386/3D87 combination. I could support C source code for the Unix machine here at work, but would rather do it at home.

73,
Bob

Bob Lombardi WB4EHS >>>>>> Internet: blombardi@x102c.ess.harris.com
M/S 102-4826, Harris Corp GASD, P.O. Box 94000, Melbourne, FL 32902
Hobbies: ***** on hold thanks to being a gradual student in EE *****
aspiring classical pianist. Professional: electrical engineer.

Date: 4 Apr 91 17:47:20 GMT
From: lll-winken!aunro!aupair.cs.athabascau.ca!rwa@ames.arpa
Subject: Antenna Matching Gedanken Experiment
To: info-hams@ucsd.edu

Lately there's been some talk in this group about antenna matching, SWR values, and so on. Someone (sorry, didn't save the article) mentioned that SWR didn't really matter, since the reverse wave reflecting from a mismatched load just bounced off the transmitter as well, and that worrying about getting a low SWR was really not very important - all the power went out the antenna eventually. I believe a book called 'Reflections' was mentioned as an authority.

This sort-of sounded reasonable (if you ignore the losses in the coax, which at HF and SWRs less than 10 are probably not much to speak of). Then I did a little gedanken experiment that got me wondering again.

Say one has a rig driving a chunk of (lossless) coax, said coax being terminated in either a dead short or an open - the intent is to get perfect reflection. OK, so the SWR is infinite. All the power stays in the transmitter. Things get hot!

Tying that back to the real world, it happens that for a while I was running an antenna that loaded well on 80, 40, 20, & 10 but very poorly on 15. The fans in my rig ran much harder when working on 15. The heatsinks got hotter. Perhaps my rig didn't read that book...

In short, I have some real doubts about this claim that the SWR doesn't much matter. Could we have some explanation please? Tnx.

--

Ross Alexander rwa@cs.athabascau.ca (403) 675 6311 ve6pdq
"I am having FUN... I wonder if it's NET FUN or GROSS FUN?" -- Zippy

Date: 4 Apr 91 19:58:27 GMT
From: swrindel@zaphod.mps.ohio-state.edu!rpi!luigi@ucsd.edu
Subject: Boy Scout RADIO Merit Badge
To: info-hams@ucsd.edu

Unfortunately now (and when I was of merit-badge eligibility) the Radio Merit badge has been steered toward SWLings. I got the badge but didn't become a ham until 10 years later. Though I remember one of the scout camp merit-badge counselors who was a ham.. I think I'll look him up in the the callbook and suprise him... We worked out scout camp for 4 years and he was always trying to get me a ticket, too bad it took me so long to realize what fun he was having.

Oh yeah back to the topic at hand, not enough scouts were becoming hams (or not enough hams were showing up at scout meetings to show scouts the joys of ham radio, so national BSA softened the requirements)

I mean, the local beekeeper did one month of meetings (4 demo/talks plus 2 field trips on the wkend to the hives) and I got beekeeping MB. We can too.

Luigi Giasi KA1UTU
luigi@rpi.edu

Date: 4 Apr 91 18:44:40 GMT
From: ogicse!cs.uoregon.edu!ns.uoregon.edu!ns.uoregon.edu!jeffh@ucsd.edu
Subject: DR-110T
To: info-hams@ucsd.edu

Is anyone aware of any mods for the Alinco DR-110T? The way it gets hammered by local paging systems leads me to believe that the reciever is broad-band.

Thanks in advance,

Jeff Hite KF7SZ
Service Manager
Computing Center, U of Oregon
Phone: 503.346.4403
Internet: jeffh@ns.uoregon.edu
Disclaimer: Any semblance of statements made here to reality are directly proportional to the uncertainty principle.

Date: 4 Apr 91 15:00:17 GMT
From: news-mail-gateway@ucsd.edu
Subject: Heathkit DX-40?
To: info-hams@ucsd.edu

It has been many years since my DX-40 and VF-1 VFO! It is a good, sturdy, economical rig that is fine for CW and reasonably good on 'fone as I recall. I think it did not have a full 100% modulation capability but rather used a form of cathode modulation of the final amplifier at around 65% or so. Not a bad compromise for the price though. And yes, there are still AM (now called "ancient modulation") afficianados around. You will find some on 75 meters but need a General Class or better license to operate there. Every once in a while, I hear some AM on 10 meters as well.

The only way to get a sidetone out of the rig would be to build and install a sidetone oscillator keyed in parallel with the transmitter. The sidetone oscillator is not a big problem but integrating the keying (assuming you used a solid state sidetone oscillator) would take a bit of planning (see note on use of keyer). You might investigate using a piezo "buzzer" from Radio Shack with appropriate voltage dropping network & keyed in parallel with the transmitter as an inexpensive alternative.

As I recall, the DX-40 is cathode keyed in the oscillator and final stages. the VFO is free running or can also be keyed, I think) - thus the 30 volt potential you are seeing at the key jack. Most solid state keyers cannot take this voltage or handle the current. As a general answer, the DX-40 was envisioned being keyed by a pair of silver plated contacts on either a manual key or a

"bug" - not TTL or CMOS circuitry. You will probably have to add a power switching "sinking" transistor outboard of the keyer or within the DX-40 to connect a solid state keyer - or use a keying relay. If your keyer had a sidetone capability, you could solve that problem as well.

I do not recall what the phono jack on the VF-1 is for. Maybe someone else can .

As to price/value, a successful transaction is where the buyer receives value equal to the price paid and the seller receives money equal to the value placed on an article sold. Sounds to me like you made a good deal. Any other opinions are irrelevant at best and at least peculiar to the individual expressing them - who was not party to the transaction.

Good luck and 73, Wayne, KB6CSP

Date: 4 Apr 91 19:12:55 GMT
From: news-mail-gateway@ucsd.edu
Subject: HF rig names?
To: info-hams@ucsd.edu

Diana,

You listed only contemporary retail store products but asked your question regarding "popular" HF rigs. There are many more popular rigs but they are not contemporary (i.e. not manufactured or sold new today) and include such notable manufacturers as Collins Radio, Drake and Heath. Among contemporary rigs, you missed the Uniden and Radio Shack 10 meter only transceivers plus Japan Radio Corporation (JRC) transceivers which are attempting to enter the market here in the U.S. Harris Radio in Rochester has also advertised their equipment for ham consumption from time to time but I would hardly classify them as "popular" ham rigs.

Hams will buy most anything, judging from the ads I see. However, economics and pragmatics lead us to transceivers instead of seperate receivers and transmitters which was the the standard configuration of days gone by. I am not aware of any contemporary ham radio stand alone transmitters being actively marketed. They are tedious to most rice box operators in that you have to provide and wire up an external antenna change over relay (or provide seperate receive and transmit antennas) and receiver muting circuit when transmitting; requiring use of a soldering iron, sometimes reading and understanding a schematic, and require the coordination of operating two different knobs to control frequency - one on the receiver and one on the transmitter! Heady stuff for many hams today.

There may be light at the end of the proverbial tunnel, however, You will note

that the Yaesu FT1000 actually has a second receiver built in! It is, I guess, a Receiver-transceiver. Or is it a Transceiverceiver? Other rigs in your list have a pseudo-second receiver built in so you can tune a limited excursion from the transceiver primary frequency. I guess this is to permit you to look for a more interesting conversationalist than the boring party you are presently talking with.

The stand alone receivers you listed can be used for electronic eavesdropping, monitoring a particular radio frequency or frequencies in conjunction with a frequency agile transceiver (i.e. I hear someone calling on a pre designated frequency using one of these receivers and then move my transceiver there to communicate), for the reception of facsimile, radio teletype transmissions, for monitoring weather broadcasts, transoceanic aircraft communications, etc., etc. It is all technically a form or variation on short wave listening but there's lots of interesting stuff in the "ether".

During the recent Operation Desert Storm event, stand alone receivers were in very high demand as people with roots in the Mid-East wanted to listen to foreign broadcasts and U.S. folk wanted to listen to our military aircraft communications to have timely and different views of happenings from that provided by the U.S. network media. Some hams do use a separate receiver so they can listen on other frequencies to maintain schedules, regular contacts or simply look to see what other band openings may occur while working on a given band. It is handy and useful; not essential.

I suppose there is another potential purpose for stand alone receivers and that is for the ham that wants to build his own transmitter. Stand-alone transmitters are still easier to construct and achieve reasonable performance with than the stand alone receivers you listed.

Date: 4 Apr 91 13:34:07 GMT
From: news-mail-gateway@ucsd.edu
Subject: IAMBIC
To: info-hams@ucsd.edu

Ted Kell (kell@lark.jsc.nasa.gov) asks;

"What does IAMBIC mean?"

According to my Collins;

iambic. Prosody. ~adj. 1. of, relating to, or using an iamb. 2. (In Greek literature) denoting a satirical verse written in iambs. ~n. 3. a metrical foot, line or stanza consisting of iambs. 4. an ancient Greek satirical verse written in iambs.

Doesn't have a lot to do with amateur radio, does it? So, what's an iamb?

iamb. Prosody. n. 1. a metrical foot of two syllables, a short one followed by a long one. 2. a line of verse of such feet.

Still not a lot to do with amateur radio, you might think? Except, think of it this way. In the definition "a metrical foot of two syllables, a short one followed by a long one" think of the syllables as elements of a Morse letter (i.e. dit and dah) and the metrical foot as the letter itself. Better, but only being able to send one letter (di-dah) is not terribly useful.

But, we can extend this definition. When we manually key, we have one contact on the key which switches the transmitter on and off. What if we have two contacts - one of which makes dits and the other dahs? Add some electronics to make the elements self-completing and correctly spaced and we have the beginning of an iambic keyer. Close the dit contact and we get a stream of dits. Close the other and we get a stream of dahs. Now, we could mount these contacts on opposing sides of a single paddle, and would have an electronic sideswiper. Push the paddle one way for dits and the other for dahs. Close, but no cigar. To make the keyer "iambic" we need to be able to make the "two syllables". So, we have two paddles mounted in parallel close together. Push one for dits, the other for dahs. So far, the same as the sideswiper. But what if we *squeeze* the paddles together? This makes the keyer send alternate dits and dahs.

So, to send on this monster, for example, "CQ", we squeeze both paddles, starting with the dash paddle, and hold them both closed until the character's finished - dah-di-dah-dit. Then let go of both paddles. Then we push the dah paddle until it's sent two dahs - dah-dah - then tap the dit paddle (still holding down the dah paddle) and the keyer inserts a dit. Because we're still holding down the dah paddle, the keyer adds on a dah, then we let go.

This technique, for obvious reasons, is called "squeeze-keying". It has to be learned, but once it is, it becomes possible to send Morse much faster than normally. Many people, however, drive iambic keyes as if they were sideswipers.

Hope this makes sense,

73,

Hugh, G0CNR.

"Exercise is bunk. If you are healthy you don't need it: If you are sick you shouldn't take it."

Henry Ford (1863-1947) US Industrialist.

Date: 4 Apr 91 17:17:35 GMT
From: chiles.slisp.cs.cmu.edu!chiles@pt.cs.cmu.edu
Subject: Licensing Philosophy
To: info-hams@ucsd.edu

You make some interesting points, but basically I'm unsatisfied by your comments. I couldn't really say everything in my first message because I wanted it to be short enough for people to finish and to think about it. Let me address some of what you said.

From: taber@ultnix.enet.dec.com (Patrick St. Joseph Teahan Taber)

As some will point out with varying degrees of politeness, there is already a set of frequencies set aside for people whose sole interest is talking -- those are the CB allocations.

This is true, but CB lacks the interesting propagation qualities of frequencies allocated to hams. Sure, they have a long propagation capability once every several years or so, but they have no constant access from one of the coasts to the midwest for example. They can't readily communicate with relatives living far away without paying the phone company lots of money. Why is it the airwaves must be restricted from public access for people who just want to be friendly with other people around the world?

In the case of the ham bands, you're tested on theory because the license conveys the right to make, modify and experiment with transmitters.

This is interesting; however, there is no law against any CBER building a transmitter and operating it on a valid CB frequency. As you point out, they don't have to know any electronics. Even if there were a law against this, the previous paragraph still holds, but why not give easy access to interesting frequencies for everyone via a no-experimenting ham ticket?

Should there be a new license class for non-technical hams (if that's not self-contradicting?) Well, certainly the people who have the allocations right now will say no. ... But I don't think you'd get a wide acceptance of no-tech licensing even from them.

You are very right. It is an unfortunate problem with humans that they think what was good for them is good for everyone. They have a hard time thinking in novel ways once they have found one way that works, however inefficiently or unfairly. Being an Extra Class, I feel some jealousy and value in my electronic prowess, but that doesn't stop me from trying to question authority and think for myself.

Even if there are some public frequencies requiring no technical knowledge

to operate a transmitter, why not have all public frequencies free of this constraint? I can't think of any reason, other than some esoteric jealousy or archaic tradition. Perhaps there is some value in making people respect their license more, so they behave more professionally on the air -- the timeless ham regard for CBers? I'll allow room for validity here, but I'm suspicious of any arguments stemming from this sort of idea since it reeks somewhat of "holier than thou".

I propose that there is no currently valid argument to support restricting ham licensing based on technical knowledge that encompasses anything more than reading an SWR meter and knowing about poor signals and interference. Anyway, my interest in this is purely intellectual, and I have no intent on waging any sort of political battle; gosh, my license may be devalued.

73,
Bill

Date: 4 Apr 91 18:55:30 GMT
From: crayola.cs.umd.edu!furuta@mimsy.umd.edu
Subject: Licensing Philosophy
To: info-hams@ucsd.edu

1. Important for protection of safety and/or property (e.g., the power equation).
2. Needed to understand how to set up, interconnect, and operate one's equipment (e.g., the simple circuit diagrams).
3. Required for having some glimmering of understanding of what everyone else is talking about on the air. If you can't understand the terminology, it's hard to participate in the community.

In my opinion, the "theory" was pretty basic and quite appropriate for an entry-level ticket. (The topics I thought were not as relevant to operation [as opposed to building] were those on the definition of PNP and NPN transistors).

It'd also be interesting to assess how much simpler the tests actually would become if the theory was eliminated from them. Again, my perception is that most of the "memorization load" in the test preparation came from the policy and operating procedures portions of the tests.

Maybe I'd feel differently if I had failed the test :->

--Rick

Date: 4 Apr 91 15:39:26 GMT
From: sdd.hp.com!spool.mu.edu!uwm.edu!lll-winken!catnip!abeals@ucsd.edu
Subject: Livermore Swap Meet this Sunday
To: info-hams@ucsd.edu

[Forwarded from the radio]

Don't forget the next Livermore Amateur Radio Klub Swap Meet,
this Sunday, April 7, from 7:00 am to 12:00 Noon at Las Positas
College near Livermore.

The
Livermore Amateur Radio Klub
Swap Meet

Is held on the first Sunday of every month
from 7:00 am to 12:00 Noon

April 7
May 5
June 2
July 7
August 4
September 1

at Las Positas College
Near Livermore

Buyers enter free. Sellers pay \$10.00 per space. Covered areas
will be available in case of inclement weather.

Convenient to both the Bay area and the central valley area,
Las Positas College is located North of the Livermore Airport
just off of Interstate 580. Take the Airway Bl/Collier
Canyon exit north from Interstate 580. Turn right at the
stop sign and follow the signs. Talk-in repeater frequencies
are 147.045 (+) for the Bay Area and 145.350 (-) from the
central valley.

Sponsored by the Livermore Amateur Radio Klub
To assist the Livermore Amateur Radio Klub (LARK) in providing
public service to the community.

73, Ray, KK6AM@WA6YHJ

--

Andrew Scott Beals
abeals@catnip.berkeley.ca.us

KC6SSS
...!apple!catnip.berkeley.ca.us!abeals

Date: 4 Apr 91 18:15:27 GMT
From: world!ksr!jfw@decwrl.dec.com
Subject: Ramsey QRP hf kits
To: info-hams@ucsd.edu

awinterb@orion.cair.du.edu (Art Winterbauer) writes:
>Has anyone ordered and built one of the Ramsey QRP cw kits for hf
>or one of the associated direct conversion receivers?

I bought their 40-meter DC receiver kit some time ago and their CT-70
frequency counter more recently.

>I'm especially interested in:
>1. The speed with which Ramsey ships these units.

Not lightning service, but reasonable.

>2. Whether the kits are missing any components which must be re-
> ordered from Ramsey.

The counter was missing a few components; I called them on the phone, and
they sent them.

>3. The quality of the instructions that come with the kits.

Not quite Heathkit in either depth or quality of presentation, but good
enough even for a beginner, I think. The CT-70 instructions had a small
problem in that they seemed to have slightly changed the circuit without
doing an adequate job of updating the documentation.

>4. The type of calibration/alignment instruments needed.

For the DC receiver, another receiver was sufficient: that enables you
to get the local oscillator into the right range; from there, you hook up
an antenna and tweak for maximum noise. The CT-70 can be aligned with a
frequency counter (to set its internal reference) or by using a known-good
frequency standard (tweak the CT-70 until it gives the right answer).

The DC receivers are pretty minimalist, and you will probably find them irritating before terribly long. They are varactor tuned, which is kind of nice from a cost standpoint, but means (a) the stability isn't what it might be, and (b) the tuning control is touchy since you're turning a potentiometer directly instead of (say) a capacitor with a 6:1 reduction drive. I also found that the tuning range was too large (well over .5MHz), but I was able to fix that by cutting a foil trace and adding some strategic resistors to narrow the voltage range. The original kit used an op-amp as the audio amplifier, which meant very low audio levels, but I understand they've since changed that (maybe I'm wrong).

The CT-70 also suffers from some minor problems; the amplifier doesn't seem terribly sensitive, and appears to oscillate with no signal input.

Date: 4 Apr 91 19:10:37 GMT
From: sdd.hp.com!samsung!news.cs.indiana.edu!widener!netnews.upenn.edu!
eniac.seas.upenn.edu!depolo@ucsd.edu
Subject: Working with Phillystran
To: info-hams@ucsd.edu

We received a roll of the super-heavy Phillystran (about the same diameter as RG8). I was told it was the "new type" -- you no longer had to buy the special termination kits. Supposedly it just requires using a thimble and a few (3?) clamps to properly terminate it. Is this correct?

--- Jeff

--

Jeff DePolo N3HBZ/AE Twisted Pair: (215) 386-7199
depolo@eniac.seas.upenn.edu RF: 146.685- 442.70+ 144.455s (Philadelphia)
University of Pennsylvania Carrier Pigeon: 420 S. 42nd St. Phila PA 19104

Date: 4 Apr 91 16:38:51 GMT
From: sbi!pivot-nj!canada!jerrys@uunet.uu.net
To: info-hams@ucsd.edu

References <5588@vela.acs.oakland.edu>, <23994@well.sf.ca.us>,
<1458@rust.zso.dec.com>
Subject : Re: No-Code Testing Questions

In article <1458@rust.zso.dec.com>, stoppani@rust.zso.dec.com (Pete Stoppani) writes:
> In article <21707@shlump.nac.dec.com>, koning@koning.enet.dec.com (Paul Koning) writes:

```

>
> Regarding the name "Tech-Lite" for the new no-code license:
>
> >....
> >
> > What the FCC did is to CHANGE the requirements for the Technician class
> > license, so it's hard to imagine why they would want to create a new
> > name. The existing name ("Technician") will do just fine.
> >
> > paul, ni1d
>
>
> My understanding is that there are in fact two Technician licenses:
>
> Technician no-code (new no-code license)
> Technician + code (same as old Technician)
>
> So it seems reasonable to me that there should be two names. I've read that
> they are simply called "Technician" and "Technician Plus Code".
>
> --
> | Pete Stoppani          | stoppani@decwet.dec.com          |
> | DECwest Engineering    | decwrl!fungus.enet!stoppani    |
> | Bellevue, WA           | stoppani@fungus.zso.dec.com    |
> | "The wise learn more from fools than fools learn from the wise." |

```

There is only one "technician" class license. However, over the years the requirements for this class of license has changed over the years. I can think of four types of "technician"s right now. In other words, four ways people have achieved this license class.

First are those people who passed the theory test for General before there ever was a Technician test. They used to be combined into one test. These people are granted Sase For both Technician and General theory elements forever. They hold Technician licenses. If they pass the General code test (that's all they need to do) they will be General licensees.

Next are people like me. I hold a technician class license. I have passed the novice theory, novice code, and technician theory tests. For me to get my General license I would have to pass both the General theory and code tests.

Third, are the latest batch of technician's. They come in two "flavors". That is to say, one type of technician passes just the novice theory and technician theory. This Technician has privealges only on 6meters and above, with no HF privealges.

The last type of technician, is the same as described in the paragraph above who then passes the code test for novice. This then means that he gets HF privileges in addition to his/her vhf/uhf privileges.

In any case, ALL FOUR OF THE LICENSEE I HAVE DESCRIBED ABOVE ARE TECHNICIAN CLASS LICENSE HOLDERS. The requirements may have changed over the years, but not the name of the license class.

I hope that helps clear it all up (smile).

End of Info-Hams Digest
